

Review of: "The Residential Property Price Impact of Luas Investments"

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Potential competing interests: No potential competing interests to declare.

This paper presents a hedonic model analysis of residential property prices in Dublin, focusing on the impact of developments related to the Luas light-rail network. The study found that a new Luas station significantly increased property prices within walking distance. Furthermore, the Cross-City Luas extension also positively affected property prices near existing Luas stations, especially for those on the Red Line. To assess it employed an innovative walking-time metric using Google's Distance Matrix API to create treatment and control groups for difference-in-differences tests of local price impacts. The research is particularly relevant as the Irish Government has announced a €25 billion investment in Dublin's transportation infrastructure over the next two decades, with planning in progress already. The findings of this paper have important policy implications for these developments.

- The Introduction you provided seems well-structured and informative. However, there are a few potential issues that I can identify:

Sentence Length and Complexity: Some sentences are quite long and contain multiple clauses, which may make them difficult for some readers to follow. Consider breaking them into shorter, more concise sentences to improve readability.

Clarity: While the paragraph contains a lot of information, some parts may benefit from additional explanation or clarification. For example, it briefly mentions "difference-in-differences (DID) methodology" and "geospatial-hedonic model" without providing a clear explanation. Adding brief explanations or references to where readers can learn more about these methodologies could be helpful.

Headings or Subheadings: Breaking the text into sections with headings or subheadings could make it easier for readers to navigate and understand the structure of the paper.

Remember that these points are suggestions for improvement, and the specific needs may vary depending on the intended audience and purpose.

- The literature review provided is comprehensive and informative, but there are a few potential issues:

Organization: The literature review covers a wide range of topics related to hedonic pricing models, land value, transport infrastructure, and various research studies. While this breadth of coverage is valuable, it could benefit from improved organization, perhaps using subheadings to distinguish different sections or themes within the literature review.

Clarity: Some sentences and paragraphs are quite dense and complex. Consider breaking them into shorter, more digestible sentences for improved clarity. Additionally, when introducing new concepts, provide concise explanations to ensure that readers, especially those less familiar with the subject, can follow along.

Synthesis: The literature review provides a lot of information about different studies and methodologies, but it could be enhanced by more synthesis and critical analysis. For example, it would be helpful to explicitly state the common themes or trends emerging from the various studies and what they collectively suggest about the topic.

Context: The review mentions several studies and methodologies without always explaining their relevance to the topic under discussion. Providing more context about why a particular study or concept is mentioned and how it connects to the overall research would be beneficial.

Relevance: While it's good to include background information, the review could be more focused on the specific topic or research question of the paper. It could help to relate the various studies and concepts to the research question and highlight their relevance to the paper's goals.

Clear Transition: Some sections or paragraphs could benefit from clearer transitions between ideas or topics to improve the flow and readability.

Balance: While it's valuable to draw on prior research, there should be a balance between summarizing existing studies and presenting the unique contributions of the current paper. Ensure that the review doesn't overshadow the paper's research and findings.

- The data paragraph provides detailed information about the dataset used and the procedures for data conversion and analysis, but it does have a focus problem:

Lack of Research Relevance: While the paragraph extensively describes the data, its sources, and the data preparation process, it lacks a clear connection to the research question or objective of the paper. It's important to establish the relevance of this information to the main research focus, which appears to be the impact of Lua's access on property prices. The paragraph could benefit from explicitly stating how this data and its conversion relate to the central research question.

To address this issue, it would be helpful to provide context and explain how the data and its geographic conversion are crucial for the analysis of the Luas' impact on property prices. By highlighting the connection between the dataset and the research focus, the paragraph can maintain a stronger and more relevant focus.

- The statistical results presented in this passage align with the objective of the work to some extent, but there are both relevant and irrelevant aspects:

Relevant aspects:

Geographic Separation: The passage provides information on how property sales data is geographically separated based

on the choice of the Dublin Spire as a reference point. This geographic separation is important for the study's objective of examining the impact of Luas on property prices, as it allows for comparisons based on location.

Inflation-Corrected Prices: The passage discusses the construction of an inflation-corrected series for log sales prices, which is relevant for comparing property prices over time. This aligns with the research objective, as it helps account for changes in property values over the sample period.

Choice of Hedonic Variables: The explanation of the selection of hedonic variables (floor area, number of bedrooms, BER rating, and age) for the property price model is relevant to the research objective. These variables are crucial for understanding the factors that influence property prices.

Irrelevant aspects:

Time Trends in Hedonic Variables: The paragraph briefly discusses the absence of strong time trends in the four selected hedonic variables. While this information may be of interest, it doesn't directly align with the primary research objective of examining the impact of Luas access on property prices. This information could be seen as somewhat tangential to the main focus of the study.

In summary, while the passage contains both relevant and somewhat irrelevant information, the primary focus on geographic separation, inflation-corrected prices, and the selection of hedonic variables aligns with the research objective. However, the discussion of time trends in hedonic variables could be considered less directly related to the primary objective of the study.

The findings discussed are crucial for the research's main objective, which is to assess the impact of Luas station openings on nearby property prices. Here are the key impacts of these findings:

Evidence of a Positive Price Impact: The study's results suggest that the opening of a new Luas station has a positive impact on nearby property prices. On average, there is an estimated 12.6% increase in property prices when a new Luas station opens within a certain walking distance. This finding is significant and indicates that proximity to a Luas station is associated with higher property values.

Differential Impact for Business and Non-Business District Stations: The study further explores the impact by categorizing stations into "business district" and "non-business district" stations. The results reveal that the price impact is slightly larger for non-business district stations, which suggests that residential properties near these stations experience a relatively stronger positive price effect from the station opening.

The Similarity in Results Across Pricing Models: The passage highlights that the two versions of the pricing model (fully linear and partially linear semiparametric) yield very similar test findings. This consistency in results strengthens the validity and reliability of the findings, as it suggests that the pricing model choice does not significantly affect the outcome.

The overall impact of these findings is that they provide empirical evidence supporting the hypothesis that the presence of Luas stations positively influences nearby property prices in County Dublin. This information can be valuable for various

stakeholders, including homeowners, real estate investors, urban planners, and policymakers. It demonstrates the economic value associated with public transportation infrastructure in urban areas and highlights the potential benefits of expanding or improving transit networks in other cities or regions. Additionally, the differential impact on business and non-business district stations can inform decisions related to station placement and urban development strategies.

These findings contribute to a better understanding of the real estate market dynamics in Dublin and can have implications for future urban planning, property investment decisions, and public transportation development in the area.

- What is my final reading?

Positive Property Price Impact: The research paper's tests indicate that improvements to the Luas light rail line have had a positive impact on nearby residential property prices. The study finds statistically significant evidence that both the opening of new Luas stations and the Luas Cross-City extension have led to property price increases in their vicinity.

Geospatial-Hedonic Model: The research employs a geospatial-hedonic model to estimate property prices, combining a linear regression model based on quarterly time dummies and four hedonic variables (property features) with a model of locational value. This model is designed to capture the influence of various factors on property prices, including the impact of transportation infrastructure like the Luas.

Data and Methodology: The paper uses a comprehensive database of residential property sales in Dublin spanning ten years. This dataset combines information from various sources, including the Irish Residential Property Price Register, the Irish Registry of Building Energy Ratings, and Daft Inc. property sales listings. Geospatial coordinates are used to construct a novel walking time variable, measuring the distance from each property to the nearest Luas station.

Economic Value and Policy Relevance: The study acknowledges that the property price impacts measured are not unbiased measures of the true economic value-added from Luas infrastructure developments, as there are endogeneity issues and public goods features involved. Nevertheless, the paper highlights the policy relevance of its empirical and methodological contributions. It confirms and extends previous findings regarding the positive price impact of new Luas stations on nearby properties. The use of a partially linear semiparametric approach, as well as the "walking time" metric, provides valuable insights for future policy analysis related to Dublin's transportation and urban development.

In summary, the research suggests that the Luas light rail system has had a positive influence on nearby property prices in Dublin, and the methodology used in the study may offer valuable tools for policymakers and urban planners to consider when assessing the impact of transportation infrastructure on property values.